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| 09/924,601 | 08/08/2001 | Shang-Jen Ko | 13989 | 5256 |

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| EXAMINER |
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LY, ANH

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| ART UNIT | PAPER NUMBER |
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2162

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,601

Applicant(s)

KO, SHANG-JEN

Examiner

Anh Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is response to Applicant's arguments filed on 08/02/2004.

Response to Arguments

2. Applicant's arguments filed on 08/02/2004 have been fully considered but they are not persuasive.

Applicant argued that, "Welch does not teaches or suggestion all limitations of claims 1, 13 and 19." (Page 4, lines 9-10).

Welch teaches search strings are to be stored in the table string or dictionary, using character-by-character comparison until the longest match is determined. If there are N characters in the current longest match, N string are added to the string table or the dictionary after the current longest match is determined, thus as a character-by-character match of the input with the stored string is effected, and each matching character is appended or (extended) to the end of growing string; also the string table or the dictionary is updated with interleaved character-by-character with string searching process(col. 2, lines 26-46). There is a code generator for compressed code values to character strings stored in the dictionary (col. 5, lines 25-30) and the dictionary is updated by extending the previously recovered string by each character of currently recovered string (col. 5, lines 55-62).

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Applicant argued that, "Abdat lacks any teaching or suggestion to ameliorate the deficiencies of Welch relative to the claims and not establish prima facie, neither Welch nor Abdat taken singly or in any combination, either teaches or suggests all recited elements of the claims." (Page 5, lines 20-21, Page 5, lines 3-6).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Welch and Abdat are from the same field of endeavor and both are directed to compression, decompression, encoding and decoding data stored in string table or dictionary in order to determine the longest match, add it to the string table and assign it to stored string. One having ordinary skill in the art would have found it motivated to combine the teachings of Welch and Abdat because that would provide Welch's system reducing the cost of information storage and transmission and searching and updating the string. Moreover, the examiner kindly submits that the applicants misread the applicable references used in the last office action. However, when read and analyzed in light the specification, the invention as claimed does not support applicant's assertions. Actually, applicants are interpreting the claims very narrow without considering the broad teaching of the references used in the rejections. Additionally, it is important to note

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that the examiner interpretation of the claims, wherein, the examiner explicitly stated passages in the cited references which were not even addressed. The aforementioned assertion wherein all the limitations are not taught or suggested by the prior of record, was unsupported by objective factual evidence and was not found to be substantial evidentiary value. The examiner has provided in the last office action, a convincing one of reasoning as to why the artisan would have found the claimed invention to be obvious in light of the teachings of the cited references. Applicants are reminded that 37 CFR 1.111(b) states, a general allegation that the claims define a patentable invention without specifically printing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section. Therefore, the applicants have failed to provided prima facie evidence how the language of the claims patentably distinguished them from the cited references. Hence, the applicants' assertions are just mere allegation with no supported fact.

3. Claims 1-24 are pending in this Application.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 5-6, 7-8, 11-12, 13-14, 17-18, 19-20 and 23-24 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,121,901 issued to Welch et al. (hereinafter Welch).

With respect to claim 1, Welch discloses storage means for storing strings of the data signals encountered in said stream of data signals in a dictionary, said stored strings each having a corresponding code signal associated therewith (dictionary is used to store string of the data signals: see fig. 1 and fig. 2, col. 3, lines 48-60, col. 4, lines 52-67 and col. 5, lines 1-3 and lines 50-62);

means for searching said stream of data signals by comparing said stream to said stored strings to determine the longest match therewith (searching the string stored in the dictionary until the longest match is found: col. 4, lines 32-36);

means for searching said remaining stream of data signals by comparing said remaining stream to said stored strings to determine the longest match therewith (the

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searching and comparing the input or current string with of string stored in dictionary:

col. 1, lines 40-52, col. 8, lines 66-67 and col. 9, lines 1-16);

means for inserting into said dictionary, for storage therein, an extended string comprising said longest match with said stream of data signals extended by said longest match with said remaining stream of said data signals (the input string is inserted into dictionary: col. 4, lines 32-51 and col. 5, lines 50-62);

and means for assigning a code signal corresponding to said stored extended string (assigning the code and storing the string, the process is repeated as shown in the figs. 1, 2, and 8, col. 5, lines 50-67 and col. 6, lines 45-58).

With respect to claim 2, Welch discloses further means for repeating the compression of said stream for all of the data signals therein (col. 5, lines 50-67 and col. 6, lines 45-58; also see col. 3, lines 48-55 and col. 4, lines 52-58).

With respect to claim 5, Welch discloses means for predefining coding signals based on the type of data signals being compressed (col. 1, lines 52-65, col. 14, lines 57-67 and col. 15, lines 1-5).

With respect to claim 6, Welch discloses wherein the coding signals are predefined as varying length zero coding signals (col. 2, lines 18-25).

Claim 7 is essentially the same as claim 1 except that it is directed to a method rather than an apparatus, and is rejected for the same reason as applied to the claim 1 hereinabove.

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Claim 8 is essentially the same as claim 2 except that it is directed to a method rather than an apparatus, and is rejected for the same reason as applied to the claim 2 hereinabove.

Claim 11 is essentially the same as claim 5 except that it is directed to a method rather than an apparatus, and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 12 is essentially the same as claim 6 except that it is directed to a method rather than an apparatus, and is rejected for the same reason as applied to the claim 6 hereinabove.

Claim 13 is essentially the same as claim 1 except that it is directed to a program storage device rather than an apparatus, and is rejected for the same reason as applied to the claim 1 hereinabove.

Claim 14 is essentially the same as claim 2 except that it is directed to a program storage device rather than an apparatus, and is rejected for the same reason as applied to the claim 2 hereinabove.

Claim 17 is essentially the same as claim 5 except that it is directed to a program storage device rather than an apparatus, and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 18 is essentially the same as claim 6 except that it is directed to a program storage device rather than an apparatus, and is rejected for the same reason as applied to the claim 6 hereinabove.

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Claim 19 is essentially the same as claim 1 except that it is directed to a computer program product rather than an apparatus, and is rejected for the same reason as applied to the claim 1 hereinabove.

Claim 20 is essentially the same as claim 2 except that it is directed to a computer program product rather than an apparatus, and is rejected for the same reason as applied to the claim 2 hereinabove.

Claim 23 is essentially the same as claim 5 except that it is directed to a computer program product rather than an apparatus, and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 24 is essentially the same as claim 6 except that it is directed to a computer program product rather than an apparatus, and is rejected for the same reason as applied to the claim 6 hereinabove.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-4, 9-10, 15-16 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,121,901 issued to Welch et al. (hereinafter Welch) in view of US Patent No. 6,606,040 issued to Abdat.

With respect to claims 3-4, Welch discloses an apparatus for compressing a stream of data signals as discussed in claim 1.

Welch discloses a stream of data or string entering into the compression dictionary as each input character is read and matched. When a longest match is achieved: searching the dictionary for the longest matched string and an output symbol is determined. Welch does not teach means for determining if said dictionary is full; and means for changing a coding size of said coding signals based on the determination of whether the dictionary is full.

However, Abdat discloses monitoring the number of entries to determine if the dictionary is full and the size of code table (see fig. 3 and col. 8, lines 38-47 and col. 5, lines 36-58 and col. 9, lines 63-67 and col. 10, lines 1-4).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Welch with the teachings of Abdat so as to obtain a way of determination of whether the dictionary is full and a coding size table (col. 8, lines 38-47 and see fig. 3 and col. 5, lines 36-58). This combination would have made an apparatus for searching and comparing stream of data to get the longest match from the dictionary where the string is stored and updating the input data character and it is ended when the input character have matched the longest string in the dictionary (Welch – col. 2, lines 26-56).

Claims 9-10 are essentially the same as claims 3-4 except that they are directed to a method rather than an apparatus, and are rejected for the same reason as applied to the claims 3-4 hereinabove.

Claims 15-16 are essentially the same as claims 3-4 except that they are directed to a program storage device rather than an apparatus, and are rejected for the same reason as applied to the claims 3-4 hereinabove.

Claims 21-22 are essentially the same as claims 3-4 except that they are directed to a computer program product rather than an apparatus, and are rejected for the same reason as applied to the claims 3-4 hereinabove.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ly whose telephone number is (571) 272-4039 or via E-Mail: ANH.LY@USPTO.GOV or fax to (571) 273-4039. The examiner can normally be reached on TUESDAY – THURSDAY from 8:30 AM – 3:30 PM.

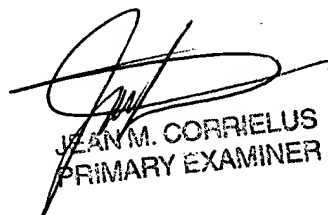
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on (571) 272-4107 or Primary Examiner Jean Corrielus (571) 272-4032.


Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: Central Fax Center (703) 872-9306


JEAN M. CORRIELUS
PRIMARY EXAMINER

ANH LY 
JAN. 6th, 2005